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(71) Applicant: **ASML Holding N.V.**
5503 LA Veldhoven (NL)

(72) Inventors:
- **Del Puerto, Santiago**
  Milton, New York 12547 (US)
- **Massar, Andrew**
  Monroe, Connecticut 06468 (US)
- **Alikhan, Abdullah**
  Danbury, Connecticut 06811 (US)
- **Feroce, Jonathan H.**
  Shelton, Connecticut 06484 (US)
- **Loopstra, Eric R.**
  5591 BA Heeze (NL)
- **Kish, Duane P.**
  Danbury, Connecticut 06811 (US)
- **Olson, Woodrow J.**
  Stamford, Connecticut 06903 (US)

(74) Representative: **Grünecker, Kinkeldey,**
Stockmair & Schwanhäusser Anwaltssozietät
Maximilianstrasse 58
80538 München (DE)

(54) System and method for using a two part cover for protecting a reticle

(57) A system and method are used to protect a mask from being contaminated by airborne particles. They include providing a reticle secured in a two-part cover. The two part cover includes a removable protection device used to protect the reticle from contaminants. The cover can be held inside a pod or box that can be used to transport the cover through a lithography system from an atmospheric section to a vacuum section. While in the vacuum section, the removable cover can be moved during an exposure process during which a pattern on the reticle can be formed on a wafer.

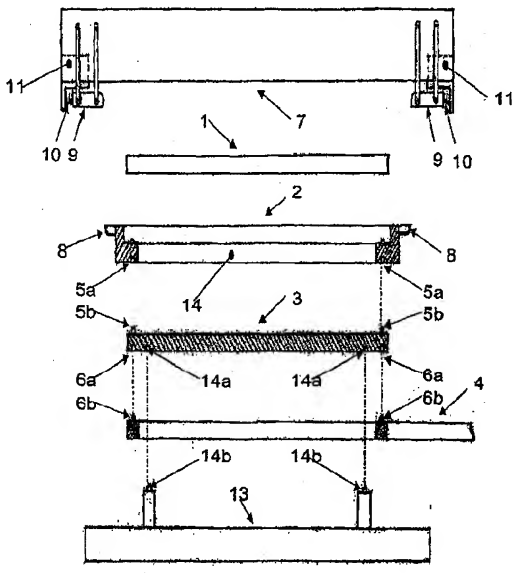

FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 03 00 3288

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	9 February 2004	van Toledo, W

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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EUROPEAN SEARCH REPORT

Application Number
EP 03 00 3288

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	9 February 2004	van Toledo, W

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Application Number
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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LACK OF UNITY OF INVENTION SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-14,15

   Two-part cover and alignment means for continuous protection of a reticle from contaminants within the exposure apparatus by reducing particle settling on the reticle, and by reducing particle generation due to transer friction and reticle sliding friction

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2. claims: 16-23

   A pod/loadlock to protect a reticle from contaminants during transport from outside to within the exposure apparatus by controlling gas flow and method of using the same

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3. claim: 24

   System comprising of a box and separate loadlock to provide mechanical transport of the mask through several vacuum environments

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 03 00 3288

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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09-02-2004

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82